ABSTRACT

A computer system with a bus arbitration system adaptively assigns priority to devices on the bus based upon workload. A bus arbiter receives request signals from bus devices that require bus access, and also receives a signal indicating the pending workload of that device, as measured by the number of operations pending in a queue in that device. Based on the workload signal, the bus arbiter breaks any arbitration conflicts by assigning priority to the device with the greatest workload. In the event of ties, the bus arbiter may use other arbitration schemes to break ties between devices with equal workloads.